

Taxonomy of *Tecoma stans* (Bignoniaceae) in North America

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ABSTRACT

Tecoma stans in North America is treated as having two morphological meaningful varieties: a typical, widespread, highly variable var. **stans** and a regionally, much more uniform, var. **angustata**. The, often recognized, var. *velutina*, is reduced in rank to **forma velutina** (DC.) B.L. Turner, **stat. nov.** A key to the several taxa is provided, along with maps showing their distributions. Published on-line www.phytologia.org *Phytologia* 95(2): 222-225 (August 1, 2013).

KEY WORDS: Bignoniaceae, *Tecoma*, *T. angustata*, *T. stans*, Mexico

Preoccupation with the *Tecoma* complex in Mexico has occasioned the present paper.

Shinners (1961) provided a scholarly account of *Tecoma*, noting its establishment and that it is typified by **T. stans** (L.) Juss. ex H.B.K., presumably from pre-Linnean collections assembled in the West Indies; he stated further:

It is native in the West Indies, Mexico, and Central America, showing considerable variation as to form, tothing, and pubescence of leaflets. A fairly uniform race native in extreme western Texas and northern Mexico, with narrow, deeply cut, glabrous leaflets is *T. stans* var. *angustata* Rehder, Mitt. Deutsch. Dendrol. Ges. 1915: 227, the type (not seen; presumably at the Arnold Arboretum) from El Paso, Texas (M. E. Jones 4187, Sept. 10, 1883).

Shinners further noted that var. **angustata** had been treated as a distinct species by various workers, but concluded that such recognition was unjustified, but he accepted its infraspecific rank. Standley (1961), however, disagreed, stating that:

The species is a variable one, but although the writer has spent a large amount of time in study of the extensive series of specimens available, it has been impossible to find any reliable characters by which to assign the material to one or more species. In the typical form the leaflets are usually glabrous. *T. stans velutina* is a form in which the leaflets are pubescent or tomentose beneath. This has usually been maintained as a distinct species, but there is every possible graduation between the forms with glabrous leaflet and those with tomentose ones. *Tecoma stans angustata* Rehder (*Stenolobium incisum* Rose & Standl.) is a form common in northeastern Mexico and the adjacent United States in which the leaves are usually narrow and incised-serrate.

Gentry (1982), in his account of *Tecoma* for the state of Veracruz, treated *T. s.* var. **angustata** as synonymous with var. **stans**, but recognized *T. s.* var. *velutina* as distinct, noting it to be similar to var. **stans**, but possessing very pubescent foliage and occurring at somewhat higher elevations.

My own studies and observations, both in the field and in herbaria, lead me to believe that there are only two meaningful populational categories in north America: var. **angustata** and var. **stans**, the latter possessing forms with markedly pubescent foliage, these referred to as var. *velutina* by most authors, as noted in the above paragraph; plants of the latter occur sporadically throughout most of the range of var. **stans** and are reduced to the status of forma in the present account.

Key to North American taxa of *Tecoma stans*

1. Leaflets mostly linear-lanceolate, 0.8-1.5 cm wide, glabrous, having margins sharply serrate, their apices sharply acute; north-central Mexico and closely adjacent USA.....var. **angustata**
1. Leaflets more nearly ovate to lanceolate, 1.0-4.0 cm wide, to some degree pubescent (rarely not), margins not sharply serrate, their apices not sharply acute...(2)
2. Leaflets nearly glabrous to sparsely pubescent.....var. **stans**
2. Leaflets markedly pubescent.....forma **velutina**

TECOMA STANS (L.) Juss. ex H.B.K., Nov. Gen. 3: 144. 1818.

Tecoma stans* var. *stans

Begonia stans L.

Gelsemium stans (L.) Kuntze

Stenolobium stans (L.) Seem.

S. stans var. *pinnata* Seem.

Tecoma stans var. *apiifolium* Hort. ex DC.

[Gentry (1982) provides a more extended synonymy]

This, the typical variety, occurs throughout most of central and southern Mexico southwards to South America and is readily recognized, both in the field and in herbaria. It is exceedingly variable, as declared by most workers, as noted above, and by both Gentry (1992) and Wood (2008), who recognized at least two of the varietal taxa in South America [var. **stans** and var. *velutina* (f. *velutina*, of the present author)].

Gentry (1982) provided an excellent line sketch of the typical variety.

Tecoma stans* var. *angustata Rehder, Mitt. Deutsch. Dendrol. Ges. 1915: 227.

Stenolobium incisum Rose & Standl.

This is a well-marked variety, forming large, relatively uniform populations over a large area. It is essentially allopatric with var. **stans**, but occasional weakly intergrading plants can be found where their ranges approach each other, as exemplified by the following collections: **Mexico. Nuevo Leon:** 11 mi S of St. Catarina, on “almost perpendicular rock walls.” *Carlson 2694* (TEX); **Mpio. Zaragoza** (23 58 N x 99 48 W), *Patterson 5962* (TEX).

Interestingly, Gentry (1982) placed this name in synonymy under var. **stans**, but maintained var. *velutina*, which is clearly but a sporadic pubescent form of var. **stans**, as noted below; he subsequently (Gentry 1992) accepted the taxon but noted “This narrow-leafleted form intergrades with typical **T. stans** in central Mexico and perhaps does not even merit varietal status.” I strongly disagree with his latter assessment and have little doubt as to its geomorphological integrity.

Benson (1944) provided an excellent line drawing of the taxon and Epple and Epple (1995) provided a photo of the living plant.

Tecoma stans* forma *velutina (DC.) B.L. Turner, **stat. nov.**

Based upon *Tecoma stans* var. *velutina* DC., Prodr. 9: 224. 1845.

Gelsemium molle (H.B.K.) Kuntze

Stenolobium molle (H.B.K.) Seem.

Tecoma mollis H.B.K.

This form is found sporadically throughout the range of var. **stans**, usually at somewhat higher elevations, as noted by Gentry (1982); it often occurs with the latter and numerous intermediates can be found where they coexist, nothing but pubescence separating the two. In short, they are not geomorphologically coherent, nor do they form meaningful populational aggregates, hence their treatment as but forms, such individuals hop-scotching from Mexico through Central America into South America. Rzedowski and Rzedowski (1993) voice similar sentiments regarding the status of var. *velutina* in their Flora del Bajío, as does Seibert (1940) in his treatment of the taxon in Central America.

Distributions of the several taxa in Mexico are shown in Map 1; their distribution in the USA is shown in Map 2. All collections of **T. stans** var. **stans** in the USA are believed to have been introduced; it is also widely introduced in South America, Asia and Africa.

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